

## **BMP #117 - Cover for Materials and Equipment**

### **DESCRIPTION**

This BMP includes partial or total physical enclosure of materials, equipment, process operations, or activities. Covering prevents stormwater from coming into contact with potential pollutants and reduces material loss from wind blowing. Tarpaulins, plastic sheeting, roofs, buildings, and other enclosures are examples of covering that are effective in preventing stormwater pollution. Covering can be temporary or permanent.

### **APPLICATIONS**

Covering is a simple, effective, and usually inexpensive way of reducing or preventing pollution. It is appropriate for outdoor material storage piles, such as stockpiles of dry materials, topsoil, spoils piles, gravel, sand, compost, sawdust, wood chips, and building materials. It is also effective where containers of liquids or solids are stored or transferred. Although it may be too expensive to cover or enclose all construction activities, the high-risk parts of a site can often be separated and covered. For example, chemical preparation areas, vehicle maintenance and washing areas, storage areas for chemically treated products and toxic wastes (e.g., used oils).

#### **Targeted Pollutants**

- ☒ Sediment
- ☐ Phosphorus
- ☒ Trace metals
- ☐ Bacteria
- ☒ Petroleum hydrocarbons

#### **Physical Limits**

Drainage area     N/A

Max slope     N/A

Min bedrock depth     N/A

Min water table     N/A

SCS soil type     N/A

Freeze/Thaw     N/A

Drainage/Flood control no

### **LIMITATIONS**

- Covering alone may not protect exposed materials from contact with stormwater runoff/run-on.
- Requires frequent inspections. Consider curbing or an elevated platform to prevent pollution from run-on water.

### **DESIGN PARAMETERS**

In selecting an appropriate covering, evaluate the strength and longevity of the covering, as well as its compatibility with the materials or items being enclosed. Cost, aesthetics, weather conditions, drainage patterns, and size of the stockpiles or storage area are other factors affecting the choice of covering.

- In designing a covering for materials, remember to provide adequate access for loading, handling, and transfer. Cost considerations may justify a less-than-optimum access arrangement in some cases. For instance, tarpaulins and plastic sheeting have to be removed or rearranged to allow continued access as materials are depleted, but they are less expensive than a permanent structure such as a roof or shed.
- Climate or weather conditions also influence the choice or design of a covering. Tarpaulins and sheeting may be difficult to keep secured in extremely windy areas.
- Where a permanent structure is indicated for a particular area or activity, consider building a roof instead of a complete enclosure. This will reduce costs and may also eliminate the need for ventilation and lighting systems that could be needed in a building.
- Consider the nature of the materials being enclosed, especially if they pose environmental or safety dangers. Materials that are biological, flammable, explosive, or chemically reactive require special ventilation and temperature control measures.
- Covering alone may not protect exposed materials from stormwater contact. Where stormwater runoff is a potential problem, place the material on an elevated, impermeable surface or build curbing around the outside of the materials to prevent pollution of stormwater from adjacent areas.

## **CONSTRUCTION GUIDELINES**

Tarpaulins and Plastic Sheeting: Obtain enough fabric or sheeting to cover the indicated volume or area. Anchor the edges of the covering with stakes, tie-down ropes, large rocks, tires, or other readily available, heavy objects. Maintain an overlap of one meter along the border of separate sheets and securely anchor the overlap area so that it does not separate (through wind or other causes), allowing water to leak into the protected materials.

Roofs, Sheds, and Buildings: Construct according to plans or drawings in accordance with existing building codes and departmental standards for such construction.

## **MAINTENANCE**

Frequently inspect coverings for damage and general wear. Repair or replace them immediately, as needed.